United States Patent [19]

Pan et al.

[11] **4,439,507**

[45] **Mar. 27, 1984**

[54] **LAYERED PHOTORESPONSIVE IMAGING DEVICE WITH PHOTOGENERATING PIGMENTS DISPERSED IN A POLYHYDROXY ETHER COMPOSITION**

[75] Inventors: **Frank Y. Pan**, Rochester; **Ian D. Morrison**; **Leon A. Teuscher**, both of Webster, all of N.Y.

[73] Assignee: **Xerox Corporation**, Stamford, Conn.

[21] Appl. No.: **420,961**

[22] Filed: **Sep. 21, 1982**

[51] **Int. Cl.**[3] **G03G 5/00**; G03G 5/04

[52] **U.S. Cl.** **430/59**; 430/66; 430/96

[58] **Field of Search** 430/58, 66, 96, 59

[56] **References Cited**

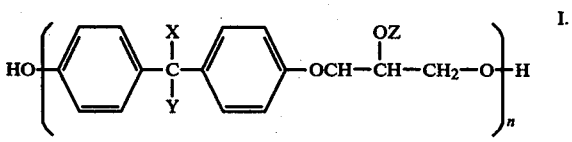
U.S. PATENT DOCUMENTS

3,121,006	2/1964	Middleton et al.	96/1
3,819,369	6/1974	Trubisky	96/1.5
3,977,870	8/1976	Rochlitz	96/1.5
4,047,949	9/1977	Horgan	96/1.5 R
4,081,274	3/1978	Horgan	96/1 PC
4,115,116	9/1978	Stolka et al.	96/1.5 R
4,265,990	5/1981	Stolka et al.	430/59
4,315,981	2/1982	Wiedemann	430/59
4,337,299	1/1982	Van der Bergh	427/403

Primary Examiner—John E. Kittle
Assistant Examiner—John L. Goodrow
Attorney, Agent, or Firm—E. O. Palazzo

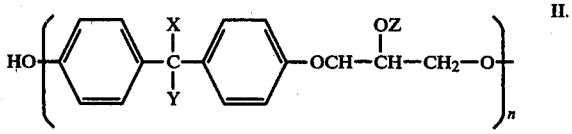
[57] **ABSTRACT**

This invention is directed to an improved photoresponsive device comprised in the order stated of (1) an optional supporting substrate, (2) a conductive layer, (3) a photogenerating layer comprised of an inorganic photoconductive composition, or an organic photoconductive composition, dispersed in a resinous binder material comprised of a poly(hydroxyether) material selected from the group consisting of those of the following formulas:

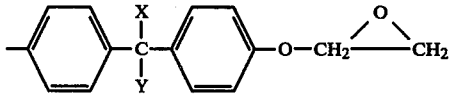


I.

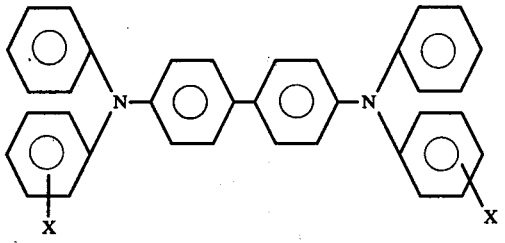
and



II.



wherein X and Y are independently selected from the group consisting of aliphatic groups and aromatic groups, Z is hydrogen, an aliphatic group or an aromatic group, and n is a number of from about 50 to about 200, and (4) in contact with the photogenerating layer a charge transport layer comprised of an electrically active composition dispersed in an insulating organic resinous binder, which composition is of the following formula:



wherein X is selected from the group consisting of ortho (CH_3), meta (CH_3), para (CH_3), ortho (Cl), meta (Cl) and para (Cl); as well as the use of such devices in electrostatographic imaging systems, particularly xerographic imaging systems.

20 Claims, 4 Drawing Figures